# Sinbad

INFORMATION AND COMMUNICATION
TECHNOLOGY



FIRST TERM

# Theme 1

Role of Information and Communication Technology (ICT) in our lives





# **Essential Question**

How can we use ICT tools together, even when we're in different places?

### In this theme we will learn:

- Different computer network types
- How to troubleshoot common computer hardware and software problems
- How to use ICT tools effectively and efficiently
- How to create a spreadsheet to share information you found while researching online



# Lesson 1

# **Explorer in Action**

# Objectives

### Evaluate yourself transparently

Very OK Need more

Give examples of how to share information

Determine ways to record information

Communicate and exchange information with my colleagues through one of these educational platforms

40.000	



- What types of ICT tools are used to explore the Earth?
- Engage What do Archaeologists look for?

# Dr. Fredrik Hiebert



Dr. Hiebert is an archaeologist and explorer. He's also the Explorer in Residence for the National Geographic Society. As an archaeologist, he studies the past by excavating, observing, and writing about objects and sites.



# What ICT tools does Fred Hiebert use daily for his work?

- Word processor program (Word) to write reports.
- Excel spreadsheet program to prepare and show graphs.
- 3- PowerPoint presentation program to present the results of his research to his team. He ensures that the slides are easy to read and makes information clear.
- 4- Letters and emails when he wants to communicate more formally. Sometimes he hands over documents in person.









- - Mr. Hiebert is a mentor who guides his students and colleagues around the world. (Mentoring is training or advising someone on a subject you have a lot of experience in)
  - Dr. Hiebert generally prefers to communicate with people through face-toface, in-person meetings.
  - At times, this is not possible because he's away on an expedition, or the people he's meeting with are in different countries. in such cases, Dr. Hiebert holds virtual meetings using platforms like Zoom and WhatsApp.
  - Dr. Hiebert believes it is important to follow up a virtual meeting or telephone call with official notes documented in an email or sent as a Word document. This ensures that everyone involved has the same information and a copy to keep.

Sharing information has become vital in our day-to-day lives. Technology has helped to make this an easier task.



Explore

 Sometimes technology can be challenging and scheduling calls can be difficult.

That is why Dr. Hiebert always has to consider many factors, such as the time difference between countries. In your opinion:

- what other challenges are there when making online virtual calls?
- How can you overcome those challenges?

Self-assess

Go to the Objectives at the beginning of the lesson.

Check the correct boxes





- Q1 Who is Fredrik Hiebert?
- A1 He is an archaeologist and explorer
- Q2 Where does Dr. Hiebert reside?
- A2 He is the Explorer in Residence for the National Geographic Society.
- Q3 What ICT tools does Dr. Hiebert use?
- A3 1- Word processor, 2- Excel Spreadsheet, 3- PowerPoint, 4- email and letters
- Q4 What is the role of Dr. Hiebert with his colleagues and students?
- A4 He is a mentor who guides his students and colleagues around the world using his experience and skills.
- Q5 What did Dr. Hiebert do when he couldn't communicate by meeting face-to-face?
- A5 He held virtual meetings using platforms like Zoom and WhatsApp.
- Q6 What is the use of the Word processor program?
- A6 To write notes and reports.
- Q7 What is the use of the Excel program?
  - A7 To prepare and show graphs.
- Q8 What is the use of PowerPoint?
  - A8 The presentation of research results.

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Exercise   Complete the following sentences:		
Fred Hiebert used some ICT tools in his daily work, such as		
and		
is a program used to write reports.		
is a program used to create graphs.		
is an archaeologist and explorer who resides at the Nation	nal	
Geographic Society.		
Dr. Hiebert held virtual meetings using platforms like		
and		
is a program used to prepare presentations.		
Dr. Hiebert uses and when he wants to commun	icate m	ore
formally.		
As an archaeologist, Dr. Hiebert studies the past by	an, an	d
***************************************		
Fred Hiebert is an archaeologist and		
have helped us with our day-to-day tasks.		
Exercise 2 Mark true ( ) or false ( ):		
Dr. Fred Hiebert doesn't use any ICT tools in his day-to-day life	(	)
Or. Hiebert uses platforms like Zoom and WhatsApp to		
communicate with people.	(	)
PowerPoint is a program used for writing reports	(	)
Dr. Hiebert uses Word and Excel programs to communicate		
formally.	(	)
Dr. Hiebert guided his students and colleagues all around		
the world	(	)
Dr. Hiebert studies the present day	(	)
(8),		Sinbad



## Theme 1: Role of Information and Communication Technology in our lives



ICI tools	made our day-to-day life harder	(	)
🛭 Dr. Hiebe	rt is an archaeologist and explorer	(	)
<b>Word</b> is a	program for spreadsheets	(	)
Excel is a	program for spreadsheets	(	)
Exercise 3	Answer the following questions :		
What is th	ne role of Dr. Hiebert with his colleagues and stude	nts?	
*********			onema onema
3 How do I	CT tools help you get your daily tasks done?		
***********			*******
	. Fredrik Hiebert? And where does he live?		
renerme			najara
	Dr. Hiebert study?		neltin
	the tools that Dr. Hiebert uses for his day-to-day w		
1000000111			



# Theme 1: Role of Information and Communication Technology in our lives



# 3 Comprehension

# Exercise 3 Read, think and answer

Virtual meetings, or video conferencing, provide an effective method to mentor others. During video conferencing, people can see and hear one another. They can also share information found on their screens and even send and receive documents, Virtual meetings became very popular in 2020. Since then, more and more people have used them worldwide.

- In your opinion, how has video conferencing made it easier for people to mentor others?
- How do virtual meetings help people communicate and share knowledge?

# 4 Creative planning

Make a plan to mentor someone you would like to train on a topic that you know a lot about.

	Who will you choose?
3	What information will you share with them?
	Which virtual meeting platform will you use?
	which virtual meeting platform will you use:

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# Lesson 2

# Networks

# Evaluate yourself transparently Objectives 1 Need more Very OK work Describe the basic computer accessories concepts Describe common computer problems Explain how to solve some common computer problems



What can a computer do?

How does the hardware enable it to do these things?

Like Mr. Hiebert, You can use ICT tools to share ideas. However, Learn your computer hardware must be working properly.

Let's get to know some of the computer accessories

# Flash memory:

used to transfer files and data between computers

# Ethernet cable:



a cable that connects a computer or laptop to a router

# Router:

a device that connects a computer to the internet via Wi-Fi or ethernet



# **Ethernet port:**



connects an ethernet cable; ethernet is more stable and faster than Wi-Fi



### Theme 1: Role of Information and Communication Technology in our lives



# External Hard Drive:



# HDMI (high-definition multimedia interface):



a cable that transmits audio and video from/to devices

# Units of measurement:

bit : the smallest unit of data (0-1)

Byte (B) : 1 byte = 8 bits = 1 character;

the word 'dog' has 3 letters and

would need three bytes.

Kilobyte (Kb) : 1,024 (B)

Megabyte (Mb): 1,024 (Kb)

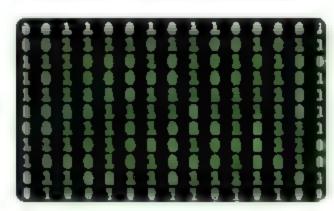
Gigabyte (Gb) : 1,024 (Mb)

◆ Terabyte : 1,024 (Gb)

Mbps : megabits per second; measures

the speed of a network or

internet connection





 GigaHertz(GHz): measures the number of cycles your CPU carries out per second; the higher the number, the faster the speed.





With a faster speed (Mbps), the internet connection is better



- Potential computer problems and solutions
- Problem 1: trouble processing large files, like a big PowerPoint presentation
- Potential reason and solution:
  - · Not enough graphics storage
  - shut down some programs

Problem 2:

A poor video conference connection

- Potential reason and solution:
  - Slow wireless internet connection
  - try an ethernet connection

Problem 3:

Not able to store files

- Potential reason and solution:
  - Not enough space
  - · move old files to an external drive

• Problem 4:

The home internet connection not working

- Potential reason and solution:
  - Connection interrupted
  - use ethernet or contact ISP (Internet Service Provider)



- Work with your partner. Think about a common computer problem. Write it down.
- Your partner will then ask you questions to guess the problem.
- With your partner, come up with possible solutions.



Your computer is not running properly.

What steps would you take to identify the problem? What steps would you take to solve the problem?

Someone needs help with computer problems. Give advice.

Self-assess

Go to the Objectives at the beginning of the lesson.

Check the correct boxes



# Theme 1: Role of Information and Communication Technology in our lives





- ◆ Q1 What are computer accessories?
  - ◆ A1 1- Flash memory
    - 3- Router
    - 5- Ethernet port

- 2- Ethernet cable
- 4- External hard drive
- 6- HDMI
- Q2 What are the computer's units of measurement?
  - ◆ A2 1-Terabyte
    - 3- Megabyte
    - 5- Byte
    - 7-Mbps

- 2-Gigabyte
- 4- Kilobyte
- 6-Bit
- 8- GigaHertz
- Q3 A classmate of yours had an issue with storing data, what solution would you suggest?
  - A 3 Move some old files to an external hard drive.
- Q4 A classmate of yours had an issue with poor connection in a video conference, what solution would you suggest?
  - A4 Try an ethernet connection.
- Q5 A classmate of yours has an issue and their home internet connection is not working, what solution would you suggest?
  - A5 Try an ethernet connection or contact ISP.

# 

Exercise   Complete the following sentences:		
Some of the computer accessories are , and		
is a cable that connects a computer or laptop to a router.		
is a cable that transmits audio and video from/to devices.		
is a device that connects a computer to the internet via Wi-Fi	or	
ethernet.		
and are some of the computer's	units c	of
measurement.		
Exercise 2 Mark true ( ) or false ( ):		
A Gigabyte = 1024 Kilobytes.	(	)
A Terabyte = 1029 Megabyte.	(	)
A Kilobyte = 1030 Byte.	(	)
A bit is the smallest unit of data.	(	)
A Gigabyte = 1024 Megabyte.	(	)
Ethernet cable is a device that connects a computer to the internet via		
Wi-Fi or ethernet.	(	)
Flash memory is a cable that connects a computer or laptop to a router		
	(	)
There are no solutions for computer issues	(	)
Ethernet is better than WiFi connection	(	)
Exercise 3 Answer the following:		
Mention 3 computer accessories.		
Mention a problem that can happen when using the internet, and a sol it.	ution f	for

# Comprehension

# Exercise | Read and write:

- Read the scenarios. Suggest solutions.
- You need to download multiple large files from the internet.
- You want your computer to hold more data.
- You want to play an online video game with lots of animation.
- You want to use multiple apps at once.

# Exercise 2 Read, think and answer

 Which computer accessory would best ensure you have a good connection to run properly during a video conference? Explain why you chose it.

# **Critical Thinking**

# Exercise 3 Think and write

- Explain why it's so important for your computer's CPU to run properly.
- How does a slow or poorly running CPU affect a computer?





# Exercise 4 Think and discuss

Work with a partner. Take turns in suggesting and solving possible computer problems. One person describes a problem and the other gives advice about how to resolve it. Then switch roles. Afterwards, write notes showing the problems and solutions you discussed.

Which computer accessory would best ensure you have a good connection during a video conference? Explain why you chose it.

Problem:

Solution:

Problem:

Solution:

### **ICT** and Me

# Exercise 5 Think and answer

• What computer accessory problems have you encountered at home or at school? Were you able to resolve them? How? If not, do you think you could if faced with the same problem now?



# Lesson 3

# Computer accessories

# **Objectives**

### Evaluate yourself transparently



ОК

Need more work

Explain what a network is

Describe different types of networks

Explain how far communication via computers and communication devices has advanced from the 1980s to today



- What does the word network mean to you?
- How many networks, digital or otherwise, do you think you have or have dealt with?

Networks are groups of people, or things, that are connected to each other for a common purpose. Think about your family, from your parents to your cousins. It can be thought of as a family network. Together, you form links that create it. You bond and communicate with each other, sharing support and experiences.



Similarly, computer networks connect computers with each other, to share important information and data.

You may have your own personal computer network at home. If you have a computer connected to another computer or device such as a printer or router, then you have your own personal Local Area Network (LAN).



# What is the Internet?

The internet is a network that connects computers, and the people using them, from all around the world.







# • How to connect your computer to the internet?

To connect your computer to the internet, you need a gateway, such as a router, which connects your computer to an ISP (Internet Service Provider), such as the internet service provided by Egyptian companies to citizens.



# What is the world wide web (WWW)?

The World Wide Web is part of the internet network, made up of web pages that people can navigate.

The Egyptian Knowledge Bank is on the WWW, available for free to all Egyptians who register on the site.



## What is an intranet?

It's another type of network. Unlike the internet, it is private and restricted to only those that are part of the business, school, or organization that it is connecting.



# Closed networks

A School's computer lab could have its own closed computer network. Some networks described above are open and accessible to all. A closed network, such as one in a computer lab, may only have computers linked by cables to allow for file sharing.





### Theme 1 Role of Information and Communication Technology in our lives



\* Work with a partner. Think about different sports at school. Together, choose one and think about how it can be considered its own network. Make a poster to illustrate and label how it works as a network. Share your poster with the class.



Discuss different kinds of networks and their shared characteristics



Talk about a computer network you have at home or at school.



Go to the Objectives at the beginning of the lesson.

Check the correct boxes



# Q1 Mention some network types

- ◆ A1 1-Internet
- 2- Intranet
- 3- Closed network

# Q2 What is the internet?

 A 2 It is a network that connects computers, and the people using them, from all around the world.

# Q3 What is an intranet?

 A3 It's a private type of network, restricted to only those that are part of the business, school, or organization that it is connecting.

# Q4 How do you connect your computer to the internet?

 A 4 You need a gateway, such as a router, which connects your computer to an ISP.

# Q5 What is the World Wide Web (WWW)?

 A5 It is part of the internet network, made up of web pages that people can navigate.

# Q6 What is a Gateway?

◆ A6 It's a gate used to connect a computer to the internet.

# Q7 What type of network do you need at school?

A7 A closed network or an intranet.

# Q8 What is the network that connects computers all around the world?

◆ A8 The internet





# Complete the following sentences: is a network that connects computers, and the people using them, from all around the world. is a private type of network, restricted to only those that are part of the business, school, or organization that it is connecting. .... are different types of networks. is short for World Wide Web. is a gate used to connect a computer to the internet. Exercise 2 Mark true ( ) or false (x): An Intranet is a network that connects computers, and the people using them, from all around the world. The Internet is restricted to only those that are part of the business, school, or organization that it is connecting. World Wide Web is a gate used to connect a computer to the internet. ( A gateway is a gate used to connect a computer to the internet. WWW is short for World Wide Web. Material of the second of t Egyptian Knowledge Bank is not available on the World Wide Web. Egyptian Knowledge Bank is available for free to all Egyptians who register on

the site.

Only the router connects a computer to the ISP.

The internet is a limited network.



### Lesson 3 : Networks

# Exercise 3 Answer the following:

Mention some types of networks.

What is the difference between the internet and an intranet?

What are the things we use to connect a computer to the internet?

What is the use of networks in our day-to-day life?

What is the importance of the internet in our lives?

# Comprehension

# Exercise | Read and answer:

Give an example of a network that has been covered in this lesson, explain what makes it a network. (Remember: a network isn't just computers linking together!)

# Exercise 2 Read, choose, and answer

Compare and contrast intranet and internet networks. An example is included.

mtrane		miternet
closed computer network	share information	open computer network

### 18.00

# dial-up internet connection

 used phone line to connect to internet (couldn't use phone when on internet). It is a slow but stable connection.

### late 805

# Digital subscriber line (DSL)

 A high speed connection that uses the same home phone wires to connect to the internet, allowing the phone and the internet to be used simultaneously.



# **Critical Thinking**

# Exercise 3 Look, think, and write

Look at the timeline at the bottom of the page. how do you think
the advancements in technology helped people communicate in their everyday
lives, both in the past and now?

### ICT and Me

# Exercise 4 Think and answer

Write about a time when you've used a network of any kind to communicate with friends.

### 905

emergence of the World Wide
 Web (abbreviated to WWW),
 which is a large set of web pages
 that are linked to each other
 using hyperlinks.

### 2000 +

 Wi-Fi devices become popular, can now access internet from your smartphone - portable internet service; hotspots to allow you to access the internet anywhere) on smartphone can help provide internet service to other devices you may have as well.



## Lesson 4

# Digital communication tools

# Objectives

Evaluate yourself transparently



Verv OK.

Need more work

Describe different ways that people can use computer networks to communicate

Explain basic scientific concepts relating to ICT tools

Describe how computer networks can help us in our daily lives



- How do you feel about talking to your friends face-to-face?
- How is it different from communicating on the telephone / by email / virtually?



- We communicate using computer networks every day.
- Every time we use the phone to send a text or buy something, take an online class, download or upload a video, or use an app or program, we're using a computer network.

**Businesses and organizations** use networks every day to share information, some private and in closed networks, and some public, or in open networks. Household items can be a part of a network, too. This is called the "Internet of Things" (IoT).



# What is the Internet of Things?

The IoT consists of devices linked to the internet via Wi-Fi. These devices can be remotely controlled. Whether you're in the same room or in another city!





### Lesson 4: Digital Communication Tools

# Examples:

 Home appliances, such as a digital refrigerator or a washing machine that can be turned on/off using specific apps. Bluetooth speakers could be remotely controlled as well.



# What is Bluetooth?

Bluetooth is a networking technology that connects wireless mobile devices over a short range to form a network to transfer data between different devices.



Computer networks give people of determination more independence, both at home and in public. This independence helps them to save money and time. It also helps to increase their confidence levels.

# Networks and people of determination

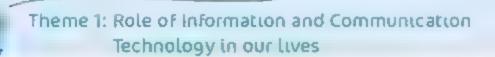
Hatem uses computer networks daily. He listens to music on his Bluetooth speakers. His favorite website is the Egyptian Knowledge Bank because it has a lot of interesting information. His favorite subject is archaeology. One day, he wants to be an explorer like Fred Hiebert!

Hatem also shops online. He thinks e-commerce makes life so much easier for

everyone. He always asks his parents before he goes online shopping. His parents remind him to think about digital privacy, so he's extra safe about giving out his information.

Hatem is visually impaired, so he does school work online, using screen readers, for audio feedback, and for help with reading braille.







# How do screen readers help people of determination?

They help them with a lot of what they need they do, including writing papers and accessing documents on their laptop.

# How does braille help people of determination?

It makes reading much easier for visually impaired people because they can read using their fingers.



Work in a group. You and three friends want to start a campaign to clean up a local community park.

### You want to:

- reach out to as many people as possible
- · share important information about the campaign
- come up with ways to track tasks and your campaign's progress.
- How would you use ICT tools/computer networks to help you with the campaign?
- Share your ideas with the class.



- Explain how people in different places use computer networks to communicate.
- How can computer networks help us in our daily lives? Provide specific examples.

Self-assess

Go to the Objectives at the beginning of the lesson.

Check the correct boxes





# Q1 What is the Internet of Things?

 A1 it consists of devices linked to the internet via Wi-Fi and can be remotely controlled whether you're in the same room or in another city.

# Q2 What is Bluetooth?

 A2 it is a networking technology that connects wireless mobile devices over a short range to form a network to transfer data between different devices.

# Q3 How do screen readers help people of determination?

 A3 They help them with a lot of what they need they do, including writing papers and accessing documents on their laptop.

# Q4 How does braille help people of determination?

A4 It makes reading easier for them.

# Q5 Give examples of some home appliances that could connect to the internet.

 A5 Some digital refrigerators and washing machines can be turned on/ off using specific apps.

# Q6 What must we do before going online shopping?

A6 We should ask our parents first, and think about digital privacy.

# Q7 How do ICT tools help people of determination?

◆ A7 It gives them more independence, and helps them to save money and time. It also helps to increase their confidence levels.



consists of devices linked to the internet via Wi-Fi and can	be	
remotely controlled whether you're in the same room or in another of	ity.	
is a networking technology that connects wireless mobile	dev	ices
over a short range to form a network to transfer data between different	ent	
devices.		
help people with determination a lot of what they need	they	do,
including writing papers and accessing documents on their laptop		
Some home appliances can be connected to the internet like	i	and
Before going online shopping we should think about		
Exercise 2 Mark true ( / ) or false ( x):		
The internet is a networking technology that connects wireless mobi	le	
devices over a short range to form a network to transfer data betwee	n	
different devices.	(	,
Bluetooth is a networking technology that connects wireless mobile		
devices over a short range to form a network to transfer data betwee	n	
different devices.	(	,
Braille makes it more difficult to read for people of determination.	(	,
ICT tools help people of determination do their daily tasks easily.	(	,
No home appliances can connect to the internet.	(	,
Screen readers help people of determination with what they need to		
write their papers.	(	,
Bluetooth is a network technology that works over long ranges.	(	,
You can reach a lot of people using the internet	(	,
The Egyptian Knowledge Bank has a lot of interesting information.	(	,
Screen readers are used for audio feedback.	(	1

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# Lesson 4 : Digital Communication Tools

Exercise 3 Answer the following questions:		
How do ICT tools help people of determination?		
Why is the internet important to all of us?	1000737370	iabar
What should you think about before shopping online?	11,4,11-141	
Mow do screen readers help people of determination?	.1	41-1414
What is Bluetooth?	A PARKETA LA P	a fa fana n
Exercise 4 Correct the underlined parts		
Bluetooth is a networking technology that connects wired mobile de	vices	over
a short range to form a network to transfer data.		
The internet is a gate used to connect a computer to the internet	4++4	
The intranet is a network that connects computers, and the people us	sing th	nem,
from all around the world		
Exercise 5 Give The ICT term for each of the following		
A networking technology that connects wireless mobile devices over	a sho	ort
range to form a network to transfer data between different devices.	(	)
It consists of devices linked to the internet via Wi-Fi and can be remot	ely	
controlled whether you're in the same room or in another city.	(	)
A private type of network, restricted to only those that are part of		
the business, school, or organization that it is connecting.	(	)
A program used to make presentations	(	)
A program used for writing notes and reports	(	)
(32)		inbad



# Schoolbook Exercises

# Comprehension

# Exercise | Read and answer:

Give examples of items in your home or classroom that can be described as using the IoT. Explain

# Exercise 2 Look and answer

 What kind of computer networks might be set up in the following photos Explain your choices.









# Exercise 3 Read and write

Express the following terms in your own words.

- internet:
- website:
- @ e-commerce
- online shopping:

# **Critical Thinking**

# Exercise 4 Think and write

Think of ways you can be sure to use computer networks responsibly. Write a list.



### Lesson 4: Digital Communication Tools

Compare your list with a partner. Does you partner have suggestions that you
would like to add to you list? If so, be sure to add them.

### Cross-curricular Connections: Career Skills

# Exercise 5 Think and write

 It's Career Day at school! Sara is talking about her father's job. read, and then answer the questions that follow.

My dad owns his business. He usually works at his office, but sometimes, he works from home. He has a home office that includes a laptop. It links him to his company's intranet. My dad is constantly video conferencing with clients on his laptop. He uses his social media apps on his phone to communicate with clients and other business owners.

- Mow do ICT tools help Sara's dad at work as a business owner?
- Think about Mr. Hiebert and how he uses ICT tools to communicate.
- How do these tools help him at work as an archaeologist?

### ICT and Me

# Exercise 6 Think and answer

- Think about the ICT tools you learned about in this lesson.
- When did you or when would you use these ICT tools in your own life? what about your family or friends?





# Assessment on lessons 1, 2, 3, 4

Exercise   Complete the following sentences:						
is a network that connects computers, and the people i	asing th	em,				
from all around the world.						
is a private type of network, restricted to only those that are par of the business, school, or organization that it is connecting.  A						
				🗊 are some of the comput	er's uni	ts of
				measurement.		
Dr. Hiebert held virtual meetings using platforms like						
Exercise 2 Mark true (🗸) or false (×):						
Dr. Fred Hiebert didn't use any ICT tools in his day-to-day life.	(	)				
Or. Hiebert held virtual meetings using platforms like Zoom						
and WhatsApp.	(	)				
A Gigabyte = 1024 Kilobytes.	(	)				
A Terabyte = 1029 Megabyte.	(	)				
ICT tools help people of determination do their daily tasks easily.	(	)				
Exercise 3 Define the following:						
1 The Internet		1111				
Bluetooth	151121-15151-1					
World Wide Web						
Exercise 4 Compare the Internet and an Intranet.						
• The Internet • An Intranet						
,	00000000					
Sinbad		35				